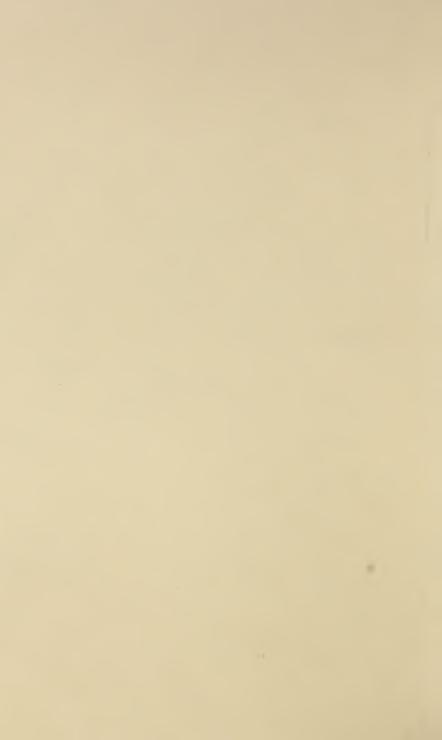
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Reserve Ag 854E

U. S. DEPT. OF AGRICULTUR 1964 fall semester evening courses

SEP 3 0 1964 CURRENT SEMAL RECORDS

GRADUATE SCHOOL • U. S. DEPARTMENT OF AGRICULTURE

Independence Avenue, between 12th and 14th Streets, Southwest, Washington, D. C. 20250 • DUdley 8-6337

Register September 5-12

- Courses for High School and College Graduates
- Training for Federal Employees

REGISTER SEPTEMBER 5-12 General Information

Registration Week: September 5-12, in the Patio (first floor) of the Administration Building, U.S. Department of Agriculture, 14th Street and Independence Avenue, S.W., Washington 25, D.C.

Saturdays 9-4 p.m. Tuesday-Friday 11-6:30 p.m.
(No registration Labor Day, September 7)

Procedures: Registration must be completed in person, or by someone acting for the registrant. Registration may not be completed by mail. Transcripts of previous educational records are not required, but graduation from high school, or the equivalent, is the general prerequisite for all courses. The more advanced courses have specific prerequisites. These are listed in the course descriptions contained in the catalog. Copies of the catalog are available in the personnel and training offices of agencies of the Federal Government and in the Graduate School office. Copies can also be obtained at the time of registration.

Academic Credit: Any student wishing to receive credit elsewhere for Graduate School courses should consult in advance with the college or university in which he plans to take a degree.

Counseling: Members of the Graduate School staff are on hand for counseling before and during the registration period. A testing service is available upon payment of a fee.

Fees: The charge for tuition is in general \$14 for each credit hour, payable at the time of registration. Arrangements may be made to pay one-half of the tuition at that time, in addition to a \$1.00 service charge. The second payment is due by October 9.

Late Registration: After September 12, a \$2.00 late registration fee is charged for each course. Late registrations will be accepted through September 25, with permission of the Registrar.

Course Transfers: Until September 25, students may transfer from one course to another without extra charge, if space permits. After that date, there is a transfer fee of \$1.00. Transfers may be made only with the permission of the Registrar and the instructor concerned.

Federal Income Tax Deductions: According to the Internal Revenue Service regulation of April 5, 1958, expenses for education are deductible if undertaken for the purpose of "maintaining or improving skills by the taxpayer in his employment."

Class Schedule: Classes begin the week of Monday, September 14, and end the week of Monday, January 11.

Government Employees Training Act: If a student plans to ask his agency to pay all or part of his tuition under the training legislation (Public Law 85-507), he should make these arrangements in advance of registration week.

Veterans: A veteran who is applying for entrance to the Graduate School for the first time under Public Law 550 is advised to consult with the Registrar well in advance of registration week. This may assure that his certificate of eligibility from the Veterans Administration will be granted in time for the semester.

Textbooks: Textbooks can be purchased at the Graduate School Bookstore, Room 1023, South Building, at the following times:

Registration week, September 5-12 Tuesday-Friday, 11 a.m.-6:30 p.m. Saturdays (September 5 and 12 only) 9 a.m.-4 p.m.

9 a.m.-4 p.m. First week of classes, September 14-18 Monday-Friday, 11 a.m.-6:30 p.m. September 21-October 2 Monday-Friday, 11 a.m.-1 p.m. and 4:30-6:15 p.m. Beginning October 5 Monday-Friday, 4:30-5:30 p.m.

Withdrawals and Refunds: When a student withdraws from a course, a refund is granted in accordance with the following schedule:

Through September 25, tuition less \$5.00 for each course September 28-October 9, 60 per cent of the total tuition October 12-23, 50 per cent of the total tuition

Laboratory fees are refunded only during the first week of classes. Notice of withdrawal must be made in writing to the Graduate School office. Forms are available for that purpose. Refunds are computed as of the date that notice of withdrawal is received in the Graduate School office. No refunds will be granted for any reason after October 23.

Credit-Audit Changes. The deadline is October 23.

Parking Space—Cafeteria: Space for parking is available for students and faculty after 5:45 p.m. in three parking courts on the east and south sides of the Administration Building. The entrances are on Independence Avenue. There is also space on the Mall, north of the Administration Building. The cafeteria, in the fourth wing of the South Building, is open from 5:00 to 6:30 p.m.

Business Office Hours: The Graduate School office, Room 1031, South Agriculture Building, 14th Street and Independence Avenue, S.W., Washington 25, D. C., is open from 9:00 a.m. to 6:15 p.m. Monday through Friday. Telephone DUdley 8-6337 (Code 111, extension 6337).

SCHEDULE OF CLASSES

Registration September 5-12 Classes begin September 14

Course Title (Cr.) Instructor Day Time Fee Catalog page

BIOLOGICAL SCIENCES

Introduction to Modern Biology (First Half) (2) Barnes Tu 6:10-8 and field trips to be arranged \$28 and \$1 laboratory fee p. 13

Medical Terms Simplified (2) Bollo Th 6:10-8 \$28 p. 13 1-115A

1 - 126

Basic Principles of Laboratory Animal Care (First Half) (non-credit) Johnson 1-90 A

Tu 6:10-8:40 \$42 p. 13 Fundamentals of Medical Microbiology (3) Fusillo Tu 6:10-8:40 \$42 p. 14 1-560

(Meets at Mount Alto Veterans Administration Hospital) 1-570A Design of Experiments in Biological Sciences (First Half) (2) Koch W 4:45-6:30

\$28 p. 14 (Meets at Plant Industry Station, Beltsville, Maryland)

Natural History Field Studies

(Register September 5-12 for all courses.)

Introduction to Outdoors (1) Buck and Foster Th 6:10-8 \$14 p. 15 Lectures September 17, October 1, 15, and 29. Field trips September 19, October 3, and 24. Physical Environment I: Geology (1) Pistrang Tu 6:10-8 \$14 p. 15
Field trips October 10 and 31 (7 weeks beginning September 22) 1 - 132

Physical Environment II: Climate and Soils (1) Lehr and Matthews Tu 6:10-8 \$14 p. 15 Field trip November 14 (8 weeks beginning November 10)
Basic Biology (1) Instructor to be announced Th 6:10-8 \$14 p. 15 1 - 125

(8 weeks beginning November 5)
Nature Teaching and Leadership Techniques (1) Instructor to be announced
M 7:10-9 \$14 p. 16 Lectures September 14 and 28, October 12 and 26 Field trips
September 19, October 3 and 17 (Meets at Audubon Naturalist Society Headquarters)

September 19, October 3 and 17 (Meets at Audubon Naturalist Society Headquarters)
Biotic Communities: Deciduous Forests (1) Osborn and Williams M 7:10-9 \$14 p. 16
Lectures September 21, October 5 and 19, November 2. Field trips September 26,
October 10 and 24 (Meets at Audubon Naturalist Society Headquarters)
Conservation Philosophy in United States (1) Briggs M 7:10-9 \$14 p. 16
(Meets at Audubon Naturalist Society Headquarters) (8 weeks beginning November 9) 1 - 138

1 - 137

Weather (1) Lehr W 7:10-9 \$14 p. 17 (Meets at Audubon Naturalist Society Headquarters) (8 weeks beginning September 16) 1 - 129

LANGUAGES AND LITERATURE

English-Grammar and Writing

2-39 Basic Grammar (non-credit) Anderson Th 6:10-8 \$28 (Intensive drill on recognition of parts of speech of English sentences and their contribution through parsing. Phrases and clauses in analysis and synthesis drill.)

Improving Reading Ability (non-credit) Willmore M-W 6-8 \$42 p. 21 (8 weeks)

English for Secretaries (non-credit) Anderson M 6:10-8 \$28 p. 21

English for Foreigners (non-credit) Weeks Th 6:10-8 \$28 p. 21 2-95

2-35

2-38

2-112 Practical English Usage (2) \$28 p. 21 Section II Reed M 6:10-8 Section II Jones M 6:10-8 Section III Jones Tu 6:10-8

2-119

2-222A

Section III Jones Tu 6:10-8
Vocabulary Building (3) Jones Th 6:10-8:40 \$42 p. 21
English Composition (First Half) (3) Anderson W 6:10-8:40 \$42 p. 22
College Grammar (3) Harmon Tu 6:10-8:40 \$42 p. 22
Official Writing (2) McCormick Tu 6:10-8 \$28 p. 22
Fiction Writing (2) Arnold M 6:10-8 \$28 p. 23
Feature Writing (2) Dolan Tu 6:30-8:20 \$28 p. 23
Feature Writing (2) \$28 p. 23
Section I Brett M 6:10-8
Section II Carter W 6:10-8
Section II Carter W 6:10-8
Writing for Data Processing Installations (2) Nicholson W 6:10-8 \$28 p. 2-223 2-235

2-280

2-450

2-285 Writing for Data Processing Installations (2) Nicholson W 6:10-8 \$28 p. 23

Literature

2-330A Great Books (First Half) (Reading List A) (2) Ruppert M 6:10-8 \$28 p. 24 2-405A Literary Masterpieces of Orient (First Half) (2) Arasteh Th 6:10-8 \$28 p. 24

Information Methods

2-325 Basic Skills in Official Communication (2) Indexing (2) Kozak Th 6:10-8 \$28 p. 25 Maddux Tu 6:10-8 \$28 p. 25

2-220

2-225 Principles of Editing and Their Application (3) Koenig W 6:10-8:40 \$42 p. 25 2-239

Intermediate Editing (3) Perlmutter Tu 6:10-8:40 \$42 p. Entermediate Editing (3) Perlmutter Tu 6:10-8:40 \$42 p. 25
Printing, Layout, and Design (2) Murow and associates M 6:10-8 \$28 p. 25
Editing Technical Manuscripts (2) Reynolds M 6:10-8 \$28 p. 26
Producing Popular Publication (2) Feldman Th 6:10-8 \$28 p. 26
Using Visuals Effectively (2) Granahan Th 6:10-8 \$28 p. 26 2-237 2-412

2-415 2-243

Library Techniques

- Introduction to Library Service (2) Moran, Payne, and associates M 6:10-8 \$28 p. 26 Introduction to Cataloging and Classification (2) \$28 p. 27 2-125
- 2-135

Section I Tate Tu 6:10-8 Section II Kuri Th 6:10-8

Basic Reference Service and Reference Tools (2) Pierson M 6:10-8 \$28 p. 27 2-137

Basic Reference Service and Reference roots (2) Fierson M 6:10-8 \$28 Introduction to Bibliographic Science (2) Popecki Th 6:10-8 \$28 p. 27 Maps and Charts (2) Bahn M 6:10-8 \$28 p. 27 Documentation in Science and Technology (2) Sherrod Th 6:10-8 \$28 Library Techniques—Seminar (3) Sherrod Tu 6:10-8:40 \$42 p. 28

- 2-114
- Sherrod Th 6:10-8 \$28 p. 28 2-420

2-160

Speech

No.

- 2-228
- Public Speaking for Beginners (2) Miller Th 6:10-8 \$28 p. 2 Advanced Public Speaking (2) Nelson W 6:10-8 \$28 p. 28 Voice and Remedial Speech (2) Warren Tu 6:10-8 \$28 p. 28 2-229 2-232

Foreign Languages

- 2-58A Latin for English (First Half) (non-credit) Stefferud Tu 6:10-8:40 \$42 p. 29 2-200A Elementary Mandarin Chinese (First Half) (4) Tsao M-Th 6:10-8 \$56 p. 29 2-210A Elementary Swahili (First Half) (3) Mlela W 6:10-8:40 \$42 p. 33

French

- 2-253A Elementary French (First Half) (3) Sommerville Th 6:10-8:40 \$42 p. 30
 2-254A Intermediate French (First Half) (3) Vican M 6:10-8:40 \$42 p. 30
 2-68 Reading French (non-credit) Vican W 6:10-8:40 \$42 p. 30
 2-87 Basic Conversational French (non-credit) Vican F 6:10-8 \$34 p. 30
 2-255 Advanced French Conversation and Composition (3) Vican Tu-Th 6-7:10 \$42 p. 30

German

- 2-259A Elementary German (First Half) (3) Lederer M 6:10-8:40 \$42 p. 30 2-260A Intermediate German (First Half) (3) Lederer Tu 6:10-8:40 \$42 p. 31
- 2-88
- 2-96
- 2-66
- Basic Conversational German I (non-credit) von Luttichau Tu 6:10-8:40 \$42 p. 31 Basic Conversational German II (non-credit) von Luttichau Tu 6:10-8:40 \$42 p. 31 Reading Scientific German (3) Lederer W 6:10-8:40 \$42 p. 31 Journey Through German Lands (non-credit) von Luttichau W 6:10-8:40 \$42 p. 31 2-97

Italian

- 2-270A Elementary Italian (First Half) (3) Bauer Tu 6:10-8:40 \$42 p. 31 2-271A Intermediate Italian (First Half) (3) Bondi Th 6:10-8:40 \$42 p. 31

Portuguese

2-290A Elementary Portuguese (First Half) (3) Ornstein W 6:10-8:40 \$42 p. 31

Russian

- 2-295A Elementary Russian (First Half) (3) \$42 p. 32
- 2-295B
- 2-296A
- 2-296B
- 2-299A
- 2-292
- 2-294 2-31

Elementary Russian (First Half) (3) \$42 p. 32
Section I Fediay M 6:10-8:40
Section II Scala Th 6:10-8:40
Elementary Russian (Second Half) (3) Scala Tu 6:10-8:40 \$42 p. 32
Intermediate Russian (First Half) (3) Zinovieff Th 6:10-8:40 \$42 p. 32
Intermediate Russian (First Half) (3) Scala M 6:10-8:40 \$42 p. 32
Advanced Russian (First Half) (3) Scala W 6:10-8:40 \$42 p. 32
Scientific Russian I (3) Boldyreff M 6:10-8:40 \$42 p. 32
Scientific Russian II (3) Boldyreff W 6:10-8:40 \$42 p. 32
Scientific Russian II (3) Boldyreff W 6:10-8:40 \$42 p. 32
Russian Poetry (non-credit) Boldyreff Tu 6:10-8:40 \$42 p. 32
Russian Poetry (non-credit) Boldyreff Tu 6:10-8:40 \$42 p. 32
Lermontov and Pushkin. Interpretation and appreciation of form and content. Lecture, reading, translation, and discussion. Term paper optional. Prerequisite: Two years reading, translation, and discussion. Term paper optional. Prerequisite: Two years

of college Russian, or equivalent.)

Spanish

- 2-300A Elementary Spanish (First Half) (3) Jaffe M 6:10-8:40 \$42 p. 33 2-301A Intermediate Spanish (First Half) (3) Sterling W 6:10-8:40 \$42 p. 33 2-302A Advanced Spanish Conversation and Composition (First Half) (2) Sterling M 6:10-8 \$28 p. 33
- Basic Conversational Spanish I (non-credit) Otero M 6:10-8 \$34 p. 33 Basic Conversational Spanish II (non-credit) Otero Tu 6:10-8 \$34 p. 33 2-83
- 2-84

MATHEMATICS AND STATISTICS

Mathematics

3-35 Parents' Guide to New Mathematics (non-credit) Wilmeth Tu 6:10-8 \$18 (How to understand the mathematics that your children are taught in the schools today.) (10 weeks)

Intermediate Algebra (non-credit) \$42 p. 35
Section I Butler Tu 6:10-8:40
Section II Fox Th 6:10-8:40
Review of College Freshman Mathematics (First Half) (non-credit) Diamond 3-8

3-1 A

M 6:10-8 \$28 p. 36 College Algebra (4) \$56 ollege Algebra (4) \$56 p. 36 Section I McCurley M-W 6:10-8 Section II Gordon Tu-Th 6:10-8 3-102

Statistics

3-318

Preparatory Mathematics for Introductory Statistics (non-credit) \$28 p. 39 3-6 Kibler Tu 6:10-8 Kinney W 4:45-6:35 Section I Section II

(Section II meets at Agricultural Research Center, Beltsville, Maryland)
Introductory Statistics (First Half) (2) \$28 p. 39
Section I Wilmeth M 6:10-8 3-1264 Section II West Tu 6:10-8 Section III West Th 6:10-8

Introductory Statistics (Second Half) (2) Wilmeth Th 6:10-8 \$28 p. 39 Graphic Methods of Presenting Statistics (2) Guidry Th 6:10-8 \$28 p. 40 Machine Tabulation I (2) Instructor to be announced M 6:10-8 \$28 and \$5 laboratory fee p. 40 Principles of Statistical Analysis (First Half) (3) Stauber Tu-Th 6:00-7:15 3-126B 3-136

3-380A \$42 p. 40

Elements of Statistical Methods (First Half) (2) Lehmann M 4:45-6:35 \$28 p. 40 3 - 385A3-400A

3-405 3-435

3-450 3-735A

Elements of Statistical Methods (First Half) (2) Lehmann M 4:45-6:35 \$28 p. 40 (Meets at Agricultural Research Center, Beltsville, Maryland)
Mathematical Statistics (First Half) (4) Melnick M-W 6:10-8 \$56 p. 40 Statistics in Experimental Research (3) Huddleston Th 6:10-8:40 \$42 p. 41 Sampling in Social and Economic Surveys (3) Nisselson W 6:10-8:40 \$42 p. 41 Introduction to Population Statistics (3) Siegel Tu 6:20-8:50 \$42 p. 41 Theory of Sample Surveys (First Half) (2) Steinberg W 6:10-8 \$28 p. 41 Federal Statistical Services (non-credit) Ryan September 23, October 7, and 21, November 4 (Registration is required, but no fees are charged.) p. 42 3-025

Automatic Data Processing

4-105 Basic Concepts of Data Processing (3) \$42 p. 46 Suter M 6:10-8:40 Section II Austin M 6:10-8:40 (Section II meets at National Library of Medicine, Bethesda, Maryland) Section III Swink Tu 6:10-8:40 Section IV Austin W 6:10-8:40 (Section IV Meets at National Library of Medicine, Bethesda, Maryland)
Section V Swink Th 6:10-8:40
Section VI De Ruyter Th 6:10-8:40
3-559A Electronic Data Processing—General (First Half) (3) \$42 p. 42

Section I Newman M 6:10-8:40 Lottridge Tu 6:10-8:40 Section II

3-559B Electronic Data Processing—General (Second Half) (3) Newman W 6:10-8:40 \$42 p. 42 3-552A Data Processing on Electronic Computers—UNIVAC 1105 (First Half) (3)

McGann Tu 6:10-8:40 \$42 p. 42

3-568A Data Processing on Electronic Computers—UNIVAC 1107 (First Half) (3) Henderson M 6:10-8:40 \$42 p. 42

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No.
                      Course Title (Cr.) Instructor Day Time Fee Catalog page
3-578A IBM 360 Data Processing System (First Half) (3) $42 p. 43
Section I Taylor W 6:10-8:40
Section II Merrill Th 6:10-8:40
3-585A Data Processing on Electronic Computers—IBM 1401 (First Semester) (3) $42 p. 43
Section I Nowotny M 6:10-8:40
Section III Morton W 6:10-8:40
Section III Morton W 6:10-8:40
Section IV Vincent Th 6:10-8:40
3-585B Data Processing on Electronic Computers—IBM 1401 (Second Semester) (3) $42 p. 43
Section I Nucci W 6:10-8:40
Section II Armstrong Th 6:10-8:40
3-585C
              Data Processing on Electronic Computers—IBM 1401 (Third Semester) (3)
Nowotry W 6:10-8:40 $42 p. 43
3-588A Data Processing on Electronic Computers—IBM 1410 (First Half) (2) $28 p. 43
Section II Close W 6:10-8
Section II Zeller Th 6:10-8
              Data Processing on Electronic Computers—IBM 1410 (Second Half) (2) Zeller
3-588B
                  M 6:10-8 $28 p. 43
              Data Processing on Medium-Sized Advanced Electronic Computer-IBM 7070
3-580A
              (First Half) (3) Trask W 6:10-8:40 $42 p. 43
Programming Large-Scale Data Processing System—IBM 7090 (First Half) (3)
3-581 A
                  Merrill 6:10-8:40 $42 p. 43
              COBOL Programming—Fundamentals (3) Steinberg Tu 6:10-8:40 $42 p. 44 FORTRAN Programming for Scientific and Business Computers (3) Bearden
3-595
3-589
                  Th 6:10-8:40 $42 p. 44
              Th 6:10-8:40 $42 p. 44
Programming Techniques for General Purpose Electronic Digital Computer—Scientific Applications (First Half) (3) Gressett Tu 6:10-8:40 $42 p. 44
Electronic Computer Methods for Statisticians (3) Schwartz M 6:10-8:40 $42 p. 44
Writing for Data Processing Installations (2) Nicholson W 6:10-8 $28 p. 23
Computers in Behavioral Sciences (3) Fitch Tu 6:10-8:40 $42 p. 86
Elements of Digital Data Processing (3) Mileson and Murray M 6:10-8:40 $42 p. 91
Engineering Applications of Digital Computers (3) Bossenga and Smith
3-760A
3-762
2-285
7-464
8-682
8-685
                  Th 6:10-8:40 $42 p. 91
                                      OFFICE TECHNIQUES AND OPERATIONS
Administrative Procedures
              Everyday Mathematics (2) Mouser Tu 6:10-8 $28 p. 46
4-101
              Intermediate Algebra (non-credit)
Section I Butler Tu 6:10-8:40
Section II Fox Th 6:10-8:40
3-8
                                                                            $42 p. 35
               Basic Concepts of Data Processing (3) $42 p. 46
4-105
                                      Suter M 6:10-8:40
Austin M 6:10-8:40
                  Section I
                  Section II
                  (Section II meets at National Library of Medicine, Bethesda, Maryland)
                  Section III Swink Tu 6:10-8:40
Section IV Austin W 6:10-8:40
                  (Section IV meets at National Library of Medicine, Bethesda, Maryland)
Section V Swink Th 6:10-8:40
              Section VI De Ruyter Th 6:10-8:40
Administrative Procedure (2) $28 p. 46
4-108
                                     Hickey M 6:10-8
Wright Tu 6:10-8
                  Section I
                  Section II
              Modern Supervisory Practice (2) $28 p. 46
Section I Van Dersal M 6:10-8:30 (10 weeks)
4-201
                  Section II Berg W 6:10-8:30 (10 weeks)
              Management—Seminar (3) Van Dersal Th 6:10-8:40 $42 p. 67
Essentials of Good Office Management (3) Wagner W 6:10-8:40 $42 p. 47
Federal Fiscal Procedure (First Half) (2) Krueger Tu 6:10-8 $28 p. 47
Federal Personnel Procedure (2) Starns Tu 6:10-8 $28 p. 47
Federal Purchasing Procedure (2) $28 p. 47
6-202
4-206
4-112A
4-114
4-115
                                     Baldauf M 6:10-8
Baldauf Th 6:10-8
                  Section I
                  Section II
4-116
              Federal Budgetary Procedure: Formulation and Presentation (2) $28 p. 48
              Section I McOmber W 6:10-8
Section II Kliman Th 6:10-8
Records Management Procedure (2) Luttrell and Lando Tu 6:10-8 $28 p. 48
Management of Directives Systems (2) Wylie W 6:10-8 $28 p. 48
Reports and Forms Management (2) Rice and Meehan Tu 6:10-8 $28 p. 49
Government Letter Writing (2) Boyd Th 6:10-8 $28 p. 49
4-117
4-410
4-412
4-330
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Shorthand

2-35 English for Secretaries (non-credit) Anderson M 6:10-8 \$28 p. 21 Review of Gregg Shorthand (Anniversary) 60-80 Words (non-credit) Dow 4-89

M-Th 6:10-7:30 \$42 p. 50 Gregg Shorthand I (3) \$42 p. 50 Section I Cerine M-Th 6:10-7:30 Section II Wick M-Th 6:10-7:30 4-129

No Course Title (Cr.) Instructor Day Time Fee Catalog page Gregg Shorthand II (3) \$42 p. 50 Section I Bell M-Th 6:10-7:30 4-130 Section II Instructor to be announced M-Th 6:10-7:30 Gregg Shorthand III (60-80 Words) (3) Vallieres M-Th 6:10-7:30 \$42 p. 50 Gregg Shorthand IV (80-100 Words) (3) Trottnow M-Th 6:10-7:30 \$42 p. 50 Gregg Shorthand V (100-120 Words) (3) Butler M-Th 6:10-7:30 \$42 p. 50 4-225 4-226 4-227 PHYSICAL SCIENCES General 5-225A Principles of Physical Sciences (First Half) (2) Pallansch W 6:10-8 \$28 p. 51 5-175A Descriptive Astronomy (First Half) (2) Chou W 7:30-9:20 \$28 p. 51 (Meets at U.S. Naval Observatory) Advanced Space Science (2) Fellows M 6:10-8 \$28 p. 51
Practical Electronics for Biologists and Chemists (First Half) (2) Wilkins 5 - 3495-765A M 6:10-8 \$28 p. 52 Chemistry and Physics 5-100A General Chemistry (First Half) (3) \$42 p. 52 Jaquith M 6:10-8:40 Section I Section II Wakabayashi M 4:45-7:15 (Section II meets at Agricultural Research Center, Beltsville, Maryland) 5-248A Organic Chemistry (First Half) (3) \$42 p. 52 Section I Alexander W 5:20-8:10 (Section I meets at Walter Reed Army Institute of Research) Section II Wakabayashi W 4:45-7:15 (Section II meets at Agricultural Research Center, Beltsville, Maryland) 5-703A Physical Chemistry (First Half) (3) Levin M 5:20-8:10 \$42 p. 52 (Meets at Walter Reed Army Institute of Research) (Meets at Walter Reed Army Institute of Research)
Chemistry of Behavior (First Half) (3) Leach Tu 6:10-8:40 \$42 p. 53
Elementary Biochemistry (First Half) (2) Flick W 6:10-8 \$28 p. 53
Basic Biochemistry (First Half) (2) Feinstein Tu 5:00-6:50 \$28 p. 53
(Meets at Plant Industry Station, Beltsville, Maryland)
Biochemistry of Steroid Hormones (3) Tolson W 6:10-8:40 \$42 p. 53
Nuclear Magnetic Resonance Spectroscopy (3) Lustig M 6:10-8:40 \$42 p. 53
Principles of Physics (First Half) (2) Smith Tu 6:10-8 \$28 p. 53
Modern Physics (2) Dicker Tu 6:10-8 \$28 p. 53
Biophysical Instrumentation (2) Campbell Tu 5:20-7:10 \$28 p. 54
(Meets at Walter Reed Army Institute of Research) 5-424A 5-315A 5-320A 5-403 5-408 5-155A 5-126 5-413 (Meets at Walter Reed Army Institute of Research) 5-431 Principles of Fusion Power (3) Harrison M 6:10-8:40 \$42 p. 54 Introduction to Gas Chromatography p. 54 Section I Hornstein W 4:45-6:35 (2) \$28 5-418 (Section I meets at Plant Industry Station, Beltsville, Maryland) Section II Kazyak Tu 5:20-8:10 (3) \$42 (Section II meets at Walter Reed Army Institute of Research) Geography and Geology Maps and Charts (2) Bahn M 6:10-8 \$28 p. 27 General Geology (3) Douglass Tu 6:10-8:40 \$42 p. 54 5-203 Meteorology Agricultural Meteorology (3) Noffsinger Tu 6:10-8:40 \$42 p. 57 Applied Climatology (3) Thom M 6:10-8:40 \$42 p. 57 Introduction to Dynamic Meteorology (First Half) (3) Petersen Tu 6:10-8:40 5-330 5-415 5-534A \$42 p. 57 (Meets at Weather Bureau, MacArthur Boulevard)

5-592 Physics of Upper Atmosphere and Sounding Techniques (2) Giraytys and Teweles Ťu 6:10-8 \$28 p. 58

Oceanography

5 - 360

General Oceanography (2) Hicks Tu 6:10-8 \$28 p. 59 Principles of Underwater Sound (2) Schulkin W 6:10-8 \$28 p. 59 Applied Underwater Sound (2) Schulkin Th 6:10-8 \$28 p. 59 Geological Oceanography (2) Weiss Tu 4:30-6:20 \$28 p. 60 5-475

5-476

5-658 (Meets at U.S. Naval Oceanographic Office)

Biological Oceanography (2) Instructor to be announced Th 4:30-6:20 \$28 p. 60 (Meets at U.S. Naval Oceanographic Office) 5-666

PUBLIC ADMINISTRATION

General Administration

6-341

6-344

American National Government (3) Nerboso Th 6:10-8:40 \$42 p. 63 Introduction to Public Administration (2) Phillips Tu 6:10-8 \$28 p. 63 Public Policy and Economic Development (2) Hein and Kriesberg W 6:10-8 6-348 \$28 p. 64

6-515 Legislative Process (2) Sapp M 6:10-8 \$28 p. 64

- No. Course Title (Cr.) Instructor Day Time Fee Catalog page
- 6-453

6-459

Human Relations in Administration (3) Enneis Tu 6:10-8:40 \$42 p. 64 Executive Staff Work (3) Hurtt M 6:10-8:40 \$42 p. 65 Reading in Public Administration (3) Thurston (coordinator) To be arranged 6-600 \$42 p. 65

American History

6-250 American History to 1865 (3) Rasmussen W 6:10-8:40 \$42 p. 65

Management

- 6-347 -
- Principles and Practice of Management (2) Wilson Th 6:10-8 \$28 p. 66
 Principles and Techniques of Management Analysis (2) Greenwood Th 6:10-8 6-405 \$28 p. 66

6-202

- Management—Seminar (3) Van Dersal Th 6:10-8:40 \$42 p. 67
 Work Standards and Work Measurement (2) Schneider W 6:10-8 \$28 p. 67
 Dynamics of Organization—Seminar (2) Finlator M 6:10-8 \$28 p. 67
 Statistical Applications to Management Problems (3) Mandel W 6:30-9 \$42 p. 68 6-519
- 6-740
- 6-415

Budgetary and Financial Administration

- 4-112A Federal Fiscal Procedure (First Half) (2) Krueger Tu 6:10-8 \$28 p. 47 4-116 Federal Budgetary Procedure: Formulation and Presentation (2) \$28 p. 48 Section I McOmber W 6:10-8 Section II Kliman Th 6:10-8
- Federal Budget Administration (2) Cummins and Tiller W 6:10-8 \$28 p. 69 6-635

Personnel Administration

- 6-430
- Public Personnel Administration (3) Terry M 6:10-8:40 \$42 p. 70 Safety Programs Management (2) Cresswell and Pope M 6:10-8 \$28 p. 70 Labor Management Relations In Civil Service—Seminar (2) Gregg and Hart 6-305
- 6-315 Tu 6:10-8 \$28 p. 71
- Compensation Practices In Industry and Government (2) Kanninen M 6:10-8 6-330 \$28 p. 71
- Personnel Research—Recent Developments (2) Glickman and Harmon W 6:10-8 6-340 \$28 p. 71
- 7-446
- Personnel Psychology (3) Boulger Tu 6:10-8:40 \$42 p. 83
 Position Classification (2) Laxton and Findlay Tu 6:10-8 \$28 p
 Employment and Placement (3) Garnett M 6:10-8:40 \$42 p. 71 6-444
- 6-512

Legal Administration

- Administrative Law and Procedure (2) Flavin M 6:10-8 \$28 p. 72 Business Law (First Half) (2) Perlman W 6:10-8 \$28 p. 72 Aviation Law (2) Cooper Tu 6:10-8 \$28 p. 72 6-320
- 6-422A
- 6-427

Procurement and Property Management

- 4-115 Federal Purchasing Procedure (2) \$28 p. 47 Section I Baldauf M 6:10-8 Baldauf Th 6:10-8 Section II
- Government Construction Contracts (2) Gantt and associates Th 6:10-8 \$28 p. 73 6-370 Labor Relations in Government Procurement (2) Gregg W 6:10-8 \$28 p. 74
 Government Defense Contracts (First Half) (2) Davidson Tu 6:10-8 \$28 p. 74 6-373
- 6-638A
- Inventory Management (2) Prichard Th 6:10-8 \$28 p. 74 6-565

Accounting

- 6-342 Accounting for Non-Accountants (2) Stratton Tu 6:10-8 \$28 p. 75
- Principles of Accounting (First Half) (3) \$42 p. 76 Section I Knapp M 6:10-9:45 Section II Carter Tu 6:10-9:45 6-352A

- 6-352B
- 6-353A
- 6-264A
- 6-420 A 6-642A
- 6-645
- 6-684A
- 6-693A
- Section II Carter Tu 6:10-9:45
 Principles of Accounting (Second Half) (3) Palenski Tu 6:10-9:45 \$42 p. 76
 Intermediate Accounting (First Half) (3) Hord M 6:10-8:40 \$42 p. 76
 Federal Government Accounting (First Half) (2) Canada W 6:10-8 \$28 p. 76
 Advanced Accounting (First Half) (3) Acker Tu 6:10-8:40 \$42 p. 77
 Cost Accounting (First Half) (3) Lobb W 6:10-8:40 \$42 p. 77
 Federal Income Taxes (3) Hamilton W 6:10-8:40 \$42 p. 77
 Internal Auditing (First Half) (2) Robinson Th 6:10-8 \$28 p. 78
 Auditing (First Half) (2) Greess, Haaser, and Robinson Tu 6:10-8 \$28 p. 78
 Audit and Investigation Management—Seminar (First Half) (2) Greess M 6:10-8
 \$28 p. 78 6-650A\$28 p. 78

SOCIAL SCIENCES

Economics

- 7-201A Principles of Economics (First Half) (3) Hady Tu 6:Î0-8:40 \$42 p. 79
 7-548A Economic Analysis (First Half) (3) Edwards Tu 6:10-8:40 \$42 p. 80
 7-570A Introduction to Econometrics (First Half) (3) Abel Th 6:10-8:40 \$42 p. 80

Course Title (Cr.) Instructor Day Time Fee Catalog page No.

Mathematics for Economists (First Half) (3) Rojko W 6:10-8:40 \$42 p. 38 Introduction to International Economics (3) Singleton Th 6:10-8:40 \$42 p. 80 Comparative Economic Systems (3) Singleton W 6:10-8:40 \$42 p. 81 Economics of Cooperative Enterprise (3) Abrahamsen Tu 6:10-8:40 \$42 p. 81 Economics of Transportation (3) Ulrey Th 6:10-8:40 \$42 p. 81 Engineering Economics (3) Searl Th 6:10-8:40 \$42 p. 81 Economics of Marketing (First Half) (2) Nelson and Trelogan Tu 6:10-8 \$28 p. 82 Economics of Agricultural Development (First Half) (3) Christensen S 9:30-12 3-509A 7-526

7-580

7-469

7-468 8-375

7-414A 7-457A

\$42 p.82

Commodity Prices: Economic and Bargaining Bases (First Half) (2) Breimyer 7-434A

W 6:10-8 \$28 p. 82 How and Why of Stock Investments I (non-credit) Ebenfield Th 6:10-8 \$28 p. 82 Security Analysis (First Half) (3) Pines M 6:10-8:40 \$42 p. 83 7-2 7-465A

Human Relations

7-210

7 - 235

7-446 7-462

7-544A

7-304

7-463

General Psychology (3) Fitzpatrick Tu 6:10-8:40 \$42 and \$2 laboratory fee p. 83
Introductory Social Psychology (3) Bloom W 6:10-8:40 \$42 p. 83
Personnel Psychology (3) Boulger Tu 6:10-8:40 \$42 p. 83
Educational Psychology (3) Boulger Th 6:10-8:40 \$42 p. 83
Psychology of Creative Individuals (First Half) (2) Arasteh Tu 6:10-8 \$28 p. 84
Conditions of Personality Growth (2) Stammeyer Tu 6:10-8 \$28 p. 84
Unity of Culture (3) Tagliacozzo Th 6:10-8:40 \$42
(Unification of scientific and humanistic cultures, Taxonomy of culture, Definition of general culture. Identification of components. Outline of integrated curriculum of general education in harmony with latest educational trend as exemplified by Bruner's structure theory of learning. Survey of overlapping problems of classification, unity, integration of science, knowledge, learning, and culture. Criteria of classification of organisms followed by modern biology.)

Improving Human Relations and Group Behavior (2) Bauer M 6:10-8 \$28 Psychological Literature—Seminar (3) Fitzpatrick Th 6:10-8:40 \$42 p. 85 7-541

7-701

Readings and Papers in Human Relations (3) Fitzpatrick (coordinator) 7-600

7-400

7-547

To be arranged \$42 p. 85

General Semantics (2) Eldridge W 7:10-9 \$28 p. 85

Counseling Techniques (3) Cornsweet M 6:10-8:40 \$42 p. 85

Counseling and Behavior Modifications—Seminar (3) Cornsweet W 6:10-8:40 \$42

(Designed for those who deal with personnel on counseling basis where situations of and problems are in constant review. Individual presentations, with exploration of psychological processes and dynamics. Discussion around significant problem areas of case material. Examination of contributing factors necessitating appropriate counof case material. Examination of contributing factors necessitating appropriate counseling techniques, Survey of literature in areas of behavioral and psychological modifications. Prerequisites: Abnormal Psychology, or Counseling Techniques, or Personality Integration, and experience in field, or special permission.)

Career Development for Federal Employees—Seminar (2) Johns Tu 6:10-8 \$28 p. 86

Programmed Learning (3) Kaplan Th 6:10-8:40 \$42 p. 86

7-556

7-550

7-464

7-640

Computers in Behavioral Sciences (3) Fitch Tu 6:10-8:40 \$42 p. 86 Medical Sociology I (3) Kramer M 6:10-8:40 \$42 p. 87 Sociological Literature—Seminar (3) Johnston Th 6:10-8:40 \$42 p. 87 7-706

Russia: Yesterday, Today, and Tomorrow (First Half) (3) Czajkowski W 6:10-8:40 \$42 p. 87
Philosophy and Modern Man (2) Rode W 6:10-8 \$28 p. 87 7-542A

7-299

TECHNOLOGY

Engineering

8-92 Review of Engineering Fundamentals for P.E. Examination (non-credit) Rixse W 6:10-8:40 \$42 p. 88

Electrical Engineering Review for P.E. Examination (non-credit) Jessel, Jaffe, and Thomas W 6:10-8 \$28 p. 89 8-95

Mechanical Engineering Review for P.E. Examination (non-credit) Jessop Tu 6:10-8 8-98 \$28 p. 89

8-97

8-275

Mathematics for Applied Electricity (non-credit) Askegaard M 6:10-8 \$28 p. 89 Symmetrical Components (3) Slingluff Th 6:10-8:40 \$42 p. 89 Electric Power Transmission (First Half) (3) Mather and associates M 6:10-8:40 8-715A \$42 p. 90

8-465A

8-525A

8-100

8-105 8-690

8-101

\$42 p. 90
Applied Electronic Theory (First Half) (3) Cullinane M 6:10-8:40 \$42 p. 90
Transistor Electronics (First Half) (3) Parker W 6:10-8:40 \$42 p. 90
Servomechanisms (2) Titus Tu 6:10-8 \$28 p. 90
Radar Systems Engineering (2) Trisler M 6:10-8 \$28 p. 90
Nuclear Reactors (2) Schulman M 6:10-8 \$28 p. 90
Introduction to Metallurgy (2) Loring Tu 6:10-8 \$28 p. 91
Principles of Specifications (2) Rosenzweig Tu 6:10-8 \$28 p. 91
Elements of Digital Data Processing (3) Mileson and Murray M 6:10-8:40 \$42 p. 91
Engineering Application of Digital Computers (3) Bossenga and Smith Th 6:10-8:40 8-405 8-682 8-685

\$42 p. 91 Engineering Economics (3) Searl Th 6:10-8:40 \$42 p. 91 8-375

Course Title (Cr.) Instructor Day Time Fee Catalog page No.

8-406

8-695A 8-697

Engineering Mathematics (4) Plait Tu-Th 6:10-8 \$56 p. 92
Engineering Reliability (First Half) (2) Price W 6:10-8 \$28 p. 92
Highway Location and Design (3) Green Th 6:10-8:40 \$42 p. 92
Steam Power Plants (First Half) (3) Bauer and associates Th 6:10-8:40 \$42 p. 92 8-710A

Surveying

Elementary Surveying (3) Blackburn M 6-8 and 4 Saturdays \$42 and \$2 laboratory fee p. 95 8-135

8-218 Geodetic Surveying (3) Blackburn W 6-8 and 4 Saturdays \$42 and \$2 laboratory fee p. 95

Photogrammetry

Introduction to Photogrammetry (2) Southard and Mullen Tu 6:10-8 \$28 p. 95 Aerial Photographic Interpretation (3) Churchill Tu 6:10-8:40 \$42 p. 96 Photogrammetry I (3) Southard and Mullen W 6:10-9:30 \$42 p. 96 8-120

8-208

8-251

Cartography

2-114 Maps and Charts (2) Bahn M 6:10-8 \$28 p. 27

8-240

Cartographic Techniques and Map Reproduction (2) Basile Th 6:10-8 \$28 p. 97 Applications of Mathematics to Surveying and Mapping (3) Cook Th 6:10-8:40 8-226 \$42 p. 97

Fine Arts

Pencil Sketching and Water Color Painting (2) Cupoli M 6:10-9 8-320

\$42 and \$5 laboratory fee p. 98

8-339 Introduction to Creative Expression (2) McKenna M 6:10-9

8-323

8-338

8-357

8-358

At Appreciation and Survey (2) Osborn Tu 6:10-9 \$82 and \$5 laboratory fee p. 98

Bething (2) Frederick W 6:10-9 \$42 and \$1 laboratory fee p. 98

Etching (2) Frederick W 6:10-9 \$42 and \$10 laboratory fee p. 98

Etching (2) Frederick W 6:10-9 \$42 and \$1 laboratory fee p. 98

Etching W 6:10-9 \$42 and \$5 laboratory fee p. 98

Etching W 6:10-9 \$42 and \$5 laboratory fee p. 98

Art Appreciation and Survey (2) Osborn Tu 6:10-8 \$28 p. 99

Music Appreciation (2) Shortridge W 6:10-8 \$28 p. 99 8-356

8-333

Music Appreciation (2) Shortridge W 6:10-8 \$28 p. 99 Theater (2) Waters M 6:10-8 \$28 p. 99 8-370

8-359

Applied Arts

8-35 Introduction to Institutional Housekeeping (non-credit) Morgan and associates

Th 6:30-8:20 \$28 p. 99 Introduction to Interior Decoration (non-credit) Steininger Tu 6:10-8 \$28 p. 99 8-55

Art, Layout, and Design for Reproduction (2) Granahan and Taylor W 6:10-8 8-322 \$28 p. 100

Landscape Design of Small Property (2) Schultheis W 7:10-9 \$28 p. 100 8-284

Photography

8-70 Popular Photography (non-credit) McCullough W 6:10-8 \$28 and \$2 laboratory fee p. 101

Fundamentals of Photography I (2) Cobb W 6:10-8 \$28 p. 101 8-192

Practice of Photography I (3) Instructor to be announced M 6:10-8:40 8-193

\$42 and \$4 laboratory fee p. 101

Practice of Photography II (2) Burnett W 6:10-8 \$28 and \$2 laboratory fee. p. 101

Portrait Photography (First Half) (2) Purdy Th 6:10-8 \$28 and \$4 laboratory fee 8-196 8-360A p. 101

Color Photography, Monopack Color Printing (First Half) (3) Rodbell Th 6:10-8:40 8-270A \$42 and \$12 laboratory fee p. 102

(Meets at Walter Reed Armed Forces Institute of Pathology)

Color Photography, Monopack Color Printing (Second Half) (3) Rodbell Tu 6:10-8:40 8-270B \$42 and \$12 laboratory fee p. 102

(Meets at Walter Reed Armed Forces Institute of Pathology Creative Photography through Composition I (2) Miller M 6:10-8

8-194

8-198

8-333

\$28 and \$2 laboratory fee p. 102
Photo-journalism (2) Forte Th 6:10-8 \$28 p. 102
Art Appreciation and Survey (2) Osborn Tu 6:10-8 \$28 p. 99
Photographic Roundtable (non-credit) Cobb To be arranged \$5 p. 102 8-011

Lithography

Copy Preparation-Pasteup (3) Martin Tu 6:10-8:40 \$42 p. 103 8-165

(Meets at Prince Georges Plaza, Hyattsville, Maryland)
Copy Preparation—Photographic (3) Wray W 6:10-8:40 \$42 and \$24 laboratory fee p. 103 (Meets at Prince Georges Plaza, Hyattsville, Maryland)
Survey of Lithography (First Half) (3) Reznikoff W 6:10-8:40 \$42 p. 103 8-166

8-170A

No. Course Title (Cr.) Instructor Day Time Fee Catalog page

8-176 How to Order Printing (3) Bernstein Th 6:10-8:40 \$42 (How to order printing, with emphasis on materials and processes. Their application to requisitioning printing, especially in Federal Government. Book work, job work, multiforms, tabulating cards, and other specialty items, including scheduling, packaging, and shipping. Selection of most effective and economical printing details for intended use. Prerequisite: Survey of Lithography, or equivalent.)

8-171A Offset Stripping and Negative Work (First Half) (3) Hamm Th 6:10-8:40 \$42 and \$10 laboratory fee p. 103 (Meets at Prince Georges Plaza, Hyattsville, Maryland)

8-174A Offset Photography (First Half) (3) Rankin Th 6:10-8:40 \$42 and \$10 laboratory fee p. 103 (Meets at Prince Georges Plaza, Hyattsville, Maryland)

8-175A Lithographic Estimating (First Half) (2) Molinari M 6:10-8 \$28 p. 103

STUDY—DISCUSSION GROUPS

- 2-44 Twentieth Century Poetry in English (non-credit) Kilmer Tu 6:10-8 \$18
 (Discussion based on Library of Congress recordings of poets reading their own works: An Album of Modern Poetry, edited by Oscar Williams; and Nine Pulitzer Prize Poets Reading Their Own Poems.) (10 weeks)
- 7-20 World Politics (non-credit) Sweeney Th 6:10-8 \$18 (Understanding issues and events in international arena. Topics: What causes war? State and individual. Democracy. Communism. Domination. Self-determination. Power politics and ideology. International organization and world government. Means and ends in world politics.) (10 weeks)
- 7-35 United States Foreign Policy (non-credit) Ashman Tu 6:10-8 \$18

 (Contemporary foreign policy in terms of interrelationships of major problems confronting the government. How policies are decided. Their application through bilateral diplomacy and international organzation. Topics selected with view to special interests of students. United States, United Nations, and Congo. Foreign trade and assistance and economic development. Nuclear threat and disarmament, Political revolution and Alliance for Progress. Communist China. Southeast Asia. Others.) (10 weeks).

U. S. DEPARTMENT OF AGRICULTURE
GRADUATE SCHOOL
WASHINGTON 25, D. C.

1964 FALL SCHEDULE OF CLASSES

